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1977

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

1977 ANNUAL REPORT
PRIEST RIVER EXPERIMENTAL FOREST
PRIEST RIVER, IDAHO

by

Calvin L Carpenter

6200-7 (6/65)

U.S. GOVERNMENT PRINTING OFFICE : 1965 O—777-887

1977 ANNUAL REPORT

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Calvin L. Carpenter

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PREF

Intermountain Forest and Range Experiment Station
Ogden, Utah

INTRODUCTION

Another record year, 1977, the 66th consecutive year of operation dedicated to forestry research proved to be a challenge for associated personnel. Extreme drought conditions created hardships for researchers, cooperators, and administrators responsible for the season activities during the abnormally dry summer. Further mention of related statistics and items of interest are revealed in this report.

"HIGHLIGHTS"

On January 4th, Dr. Julius A. Larsen died at age 99, in Omaha, Nebraska. He was the second director of the Priest River Experimental Forest. "Skip," as he was known by many, held undergraduate and graduate degrees from Yale. He was also a retired member of the Iowa State University faculty. Dr. Larsen was among the former directors of the Priest River Experimental Forest who attended and took part in the observance of the 65th Anniversary celebration, August 11, 1976.

On April 24th the late afternoon silence was broken with the cry of a small cub bear which wandered into the area adjacent to cottage #4 at the headquarters station. After careful observation, for an extended period of time, it was evident the animal was an orphan. A temporary care station was set up where food and shelter was supplied by the Carpenter family until the Idaho Fish and Game Dept. arrived to take possession for relocation at a facility provided for such emergencies.

On July 23rd the Priest Lake Ranger District, with associated personnel, gathered at the Priest River Experimental Forest headquarters area for their annual picnic. The site proved to be exceptionally favorable for the large group in attendance.

On October 1st the Bonner County 4H organization gathered at the PREF to participate in a trail ride. The Benton Meadow area provided parking space for many horse trailers, and other type vehicles, while instructors, chaperons, and teenage members enjoyed a 28 mile horseback ride into the Canyon Creek drainage, returning via the Benton Creek drainage. Improvised obstacles were installed along the route and members competed for honors for ability to maneuver safely and skillfully along the way.

On October 6th the station (PREF) was honored with a visit by family members of late John B. Thompson (Tommy Thompson) who was superintendent from 1928-1937. A sister, Mrs. Louise Thompson Powrie, daughter Helen Mae Thompson (Mrs. Perry Dayton), and husband Perry A. Dayton, enjoyed a tour which took them through the living quarters and site area which many years ago provided a livelihood for the family.

On November 11th a damaging wind, beginning at 1600 and continuing until 0300 November 12th, caused power interruption for 9 hours, and destruction throughout the Experimental Forest and outlying areas. Immediate attention was required to remove blow-down on the main traveled roads. Assistance from "hunter" traffic hastened completion of the job.

The 1976-1977 "water year" which includes the period of time from August 31-September 1 proved to be the driest since 1912. Re: Figure 1 elsewhere in this report. Personnel exercised caution by limiting water use for the grounds area and nursery. The headquarters water supply source is a 70 foot deep well, which provided ample water for the requirements of research and YCC personnel.

RESEARCH ACTIVITIES

Timber Management Research

Continued measurement of the Environmental Grids in five habitat types was carried out through the summer. Rainfall, radiation, air temperature, soil temperature, humidity, and plant moisture stress (P.M.S.) was recorded during the growing season. P.M.S. readings were discontinued September 1st when fall rains began. Scott Keuhn, a summer forestry technician, and Cal Carpenter were responsible for the weekly maintenance checks at the five sites.

Pre-treatment measurements and data collection within the Observatory Point timber sale area started this year. Permanent variable-radius and fixed-radius plots were established in each cutting unit by Russ Graham, Scott Keuhn, Jonalea Tomm, and YCC enrollees (See also the Watershed Research section).

North Ridge; variable and fixed area plots were measured in each of the cutting units. The data collection was accomplished by Scott Keuhn and YCC labor.

Ida-Benton; variable and fixed area plots were measured in each of the cutting units.

Fertilization study; the permanent fertilization plots located adjacent to the Vigor-Quality plots and Crows Nest Ridge were remeasured by Scott Keuhn, Cal Carpenter, and YCC labor.

Genetics Research

Nursery.--Beginning the first of April and continuing through mid-October, RWU 1451 conducted research on the PREF. Nursery maintenance included standard operational procedures, weeding, watering, fertilizing, tilling, and housekeeping. A three foot trench was excavated around the entire perimeter, and heavy close mesh wire was installed to protect the seedlings from pests. Personnel: R. Hoff, S. P. Wells, D. O. Coffen, YCC.

Canyon Creek measurement.--Six thousand experimental rust resistant western white pine were measured. Growth performance was recorded to complete a 5-year record of the plantation. Personnel: D. O. Coffen, YCC.

Grand fir measurement.--421 grand fir seedlings in the nursery were measured for height growth performance. Personnel: R. J. Steinhoff, and D. O. Coffen.

Douglas-fir provenance test plots.--Two replications in the nursery, and two within the North Ridge sale area, were established. Four thousand, eight hundred seedlings were planted, and maintenance was accomplished until late fall. Personnel: G. E. Rehfeldt, S. P. Wells, and CETA employees; Shawn Holve, and Kim Cockrum.

White pine species trial.--Plots were established in the nursery for testing resistance to white pine blister rust in the Priest River environment. Species included for trials are as follows: Pinus wallichiana, Pinus koraiensis, Pinus peuce, and Pinus monticola. Personnel: R. J. Hoff, G. E. Rehfeldt, S. P. Wells, and CETA employees; Shawn Holve, and Kim Cockrum.

On November 2-3, 1977, the grand fir seedlings in the nursery were measured, also inspections of the established low, mid, and high plots of the elevation studies. Ray Steinhoff, and D. O. Coffen.

Forest Insect Research

During late May 1977, larch casebearer pupal samples were collected from the Benton Creek plot to determine population levels. The collected material was reared to determine the presence and abundance of casebearer parasites. Population levels were determined to be 109 L.C.B./100 fascicles. Total percent parasitism was 3.5% for the Benton Creek plot. Two exotic species of parasites were recovered for the first time; Agathis pumila at 0.2%, and Chrysocharis laricinellae at 1.8%.

Overwintering larch casebearer populations were collected on the Benton Creek plot December 5, 1977. Personnel: Leon Theroux.

Forest Disease Research

Dr. Ed Wicker inspected and sampled infected areas within exotic tree plantations located on the Experimental Forest April 27, 1977. He returned October 29-30, 1977 with J. Y. Woo to continue his investigation as to the cause of the mortality. Explosives were used to uplift the stumps of killed trees for examination of root systems for root diseases. Interactions between bark beetles and root diseases was causing mortality in Scots pine, Austrian pine and mugo pine.

Watershed Management Research

Stations were established within the Observatory Point Timber Sale boundaries at varied points on the Main Canyon Creek for the purpose of sampling water quantity and quality in relation to timber harvest areas. Russ Graham and Harold Haupt, Forestry Sciences Laboratory, Moscow, established sites for proposed instrumentation and sampling.

Range Management and Wildlife Habitat Research

RWU 1705 spent four mandays with a two-man field crew during August 10 and 11. Work consisted of resampling vegetation on six permanent transects on three study areas in the Lower Benton Creek clearcut. These areas are part of a larger long-term study of forest succession concerned with the development and maintenance of big game habitat in the Northern Rocky Mountains. The data collected will contribute toward the development profiles of Douglas-fir and western hemlock forest types. Those in the field crew were Pete F. Stickney, and David J. Ramsden.

Research and Development, Forest Residues Utilization

RWU 3255 utilized living quarters in Cottage #3 and laboratory facilities at the PREF from June 15th to October 1st, 1977. Personnel from F.P.L. Madison, Wisconsin, Michigan Technological University, Houghton, Michigan, and Forestry Sciences Lab., Missoula, Montana did extensive research on monitoring the effects of harvesting, utilization, and fire on soil quality. Laboratory tests were run on samples taken from sites located in the Solo Creek, Priest Lake Ranger

District, and from two sites on the Experimental Forest; one in the Benton Creek drainage and another in the Canyon Creek drainage, mainly in cedar-hemlock stands. The following people were involved in the research project at PREF for the summer of 1977:

Mike Larsen, F.P.L., Madison, Wisconsin
Martin Jurgensen, Michigan Tech. Univ. Houghton, Mich.
Pete Cattelino, Michigan Tech. Univ., Houghton, Mich.
Mike Ajanen, Michigan Tech. Univ., Houghton, Mich.
Dave Myrold, Michigan Tech. Univ., Houghton, Mich.
Jackie Piper, Michigan Tech. Univ., Houghton, Mich.
Scott Spano, Michigan Tech. Univ., Houghton, Mich.
Rick Bandy, Michigan Tech. Univ., Houghton, Mich.
John Carie, Michigan Tech. Univ., Houghton, Mich.
Julie Howell, Michigan Tech. Univ., Houghton, Mich.
Ellen Weaver, Michigan Tech. Univ., Houghton, Mich.
Dennis Hartmans, F.S.L., Missoula, Mont.
Drew De Puydt, F.S.L., Missoula, Mont.
Al Harvey, F.S.L., Missoula, Mont.
Roger Hungerford, F.S.L., Missoula, Mont.
Ron Babbitt, F.S.L., Missoula, Mont.
Darrell Winter, F.S.L., Missoula, Mont.

ADMINISTRATIVE ACTIVITIES

Fire Protection

Fire protection during the 1977 drought season called for more than the normal district aid in fire suppression. On August 22, 1977, during an early morning storm, lightning struck and caused a fire on North Ridge in the SW/SW of Section 17, T58N, R3W. Early response by personnel from the Priest Lake Ranger District contained the fire in short time, with no damage. A second fire September 18, 1977, man-caused, was located near the junction of 597-B and 597-L-1 roads, in the NW/SE of section 30, T58N, R3W. The initial attack was made by James Cary, Priest Lake Dist., Peter Cattelino, Micigan Tech. University, and Cal Carpenter, PREF, followed by a mop-up crew from the Priest Lake Dist. Both of the above mentioned fires were small, and rated in the "spot" size category. Regular patrols by the district prevention guard and Falls Fire Crew were maintained during the hazardous season.

Forest Roads

A culvert was replaced near the junction of 597-B and 597-L-1 road. At another location on 597-D, in the vicinity of Ida Creek L.O. Point, the road required backfill, culvert installation with drain ditch. The work was accomplished by equipment and crew members from Sandpoint Zone Engineering and the Priest Lake Ranger District.

During the fall season a crew from the Ranger District removed blow-down from 597-Q1 road; approximate distance 2 miles and 597-G road; consisting of approximately 5 miles.

Unburned slash located in the area of the 597-A and 597-C road junction was repiled and will be burned when conditions permit.

Timber Sales

Observatory Point

Sale accomplishments include marking and cruising of cutting units completed by Priest Lake Ranger District. The contract was approved by Moscow F.S.L. and considered ready for advertisement. Cutting methods and data collection discriptions are listed under Research Activities.

A summary of the proposed harvest is as follows:

I. Harvest Units

A. Unit 1

1. Area: 47 acres
2. Silviculture System: Group Selection

(a) 50% of area cut
(b) Groups 1/4-2 ac. in size

3. Slash Disposal: Broadcast burn and dozer pile

4. Regeneration: Artificial and natural

5. Yarding: Tractor

B. Unit 2

1. Area: 43 acres

2. Silviculture System: Shelterwood

(a) 20-25 trees/ac residual larch and white pine

3. Slash Disposal: Dozer pile, hand pile, and jackpot burn

4. Regeneration: Natural and artificial

5. Yarding: Tractor

C. Unit 3

1. Area: 24 acres

2. Silviculture System: Group selection

(a) 50% of area cut
(b) Groups 1/4-2 ac. in size

3. Slash disposal: Broadcast burn and dozer pile

4. Regeneration: Artificail and natural

5. Tractor and cable

D. Unit 4

1. Area: 26 acres

2. Silviculture System: Selection

(a) Remove 10-15% of existing stand

3. Slash Disposal: Lop and scatter and hand pile

4. Regeneration: Natural

5. Yarding: Cable

E. Unit 5

1. Area: 24 acres

2. Silvicultural System: Clearcut

3. Slash Disposal: Broadcast burn

4. Regeneration: Artificial

5. Yarding: Cable

F. Unit 6

1. Area: 10 acres

2. Silvicultural System: Selection

(a) Remove 20-25% of existing stand

3. Slash Disposal: Lop and scatter

4. Regeneration: Natural

5. Yarding: Cable

G. Total cutting unit area: 174 acres

II. Road Construction

A.	M-2	0.4 miles
B.	M-4	0.5 miles
C.	M-7	1.0 miles
D.	Total	1.9 miles

Experimental Eastern White Pine

This was a lump sum sale of approximately 5 acres located in the NW 1/4 Section 34, T50N, R4W, B.M. A salvage operation designed for the purpose of removing dead wood within an eastern white pine - Norway spruce plantation was purchased by Randall Lemburg, Nordman, Idaho. Terms of the permit which was issued December 7, 1977, are as follows: slash disposal; purchaser to lop all unmerchantable material down to a 3" diameter and to within 2 feet of ground line. Maximum stump height 12 in. and minimum required top diameter 6 in. Skidding and hauling during times of frozen soil or snow (10" off) to minimize soil and residual disturbance. A total of 20 MBF was harvested which amounted to $323.52 for stumpage and slash disposal. Termination date April 15, 1978. Mortality in the area was caused by an interaction of root disease (Verticicladiella), and bark beetles.

Ida-Benton

Slash disposal within the Ida portion was accomplished by YCC crews and included hand piling along access roads and fire lines. Later in the season the Priest Lake Ranger District contracted equipment and operator to dozer pile slash in a specified area.

Forest Influences

Control Weather Station

Table 1 records climatic information taken each day at 1700. Continuous and unbroken records have been maintained for the past 66 years. Midweek and monthly summaries are submitted to the local news media, and upon request, are provided for various government agencies, state agencies, private industry, universities, public schools, and private individuals.

Table 2 compares current monthly and annual percipitation with 16-year averages for three different stations in the Benton Creek watershed.

Figure 1 shows cumulative precipitation for the 1976-77 water year and also includes the comparative trends for the wettest year, a 50-year mean, the driest year, which in this case is the current year, and the previous driest year.

Fire Weather Station

Daily observations were recorded and submitted at 10-day intervals to the fire dispatcher of the Idaho Panhandle N.F. Observations were made from May 1 to October 31.

Snow Survey

Table 3 summarizes the snow measurements from Benton Spring and Benton Meadow snow courses from January 1, 1977 to the end of the runoff period. Vern Bromgard, S.C.S. in Sandpoint, assisted with the Benton Spring surveys, and Cal Carpenter measured the Benton Meadow course through the season.

FIG. 1--CUMULATIVE PRECIPITATION FOR WATER YEAR, OCTOBER THROUGH SEPTEMBER
PRIEST RIVER EXPERIMENTAL FOREST, CONTROL WEATHER STATION

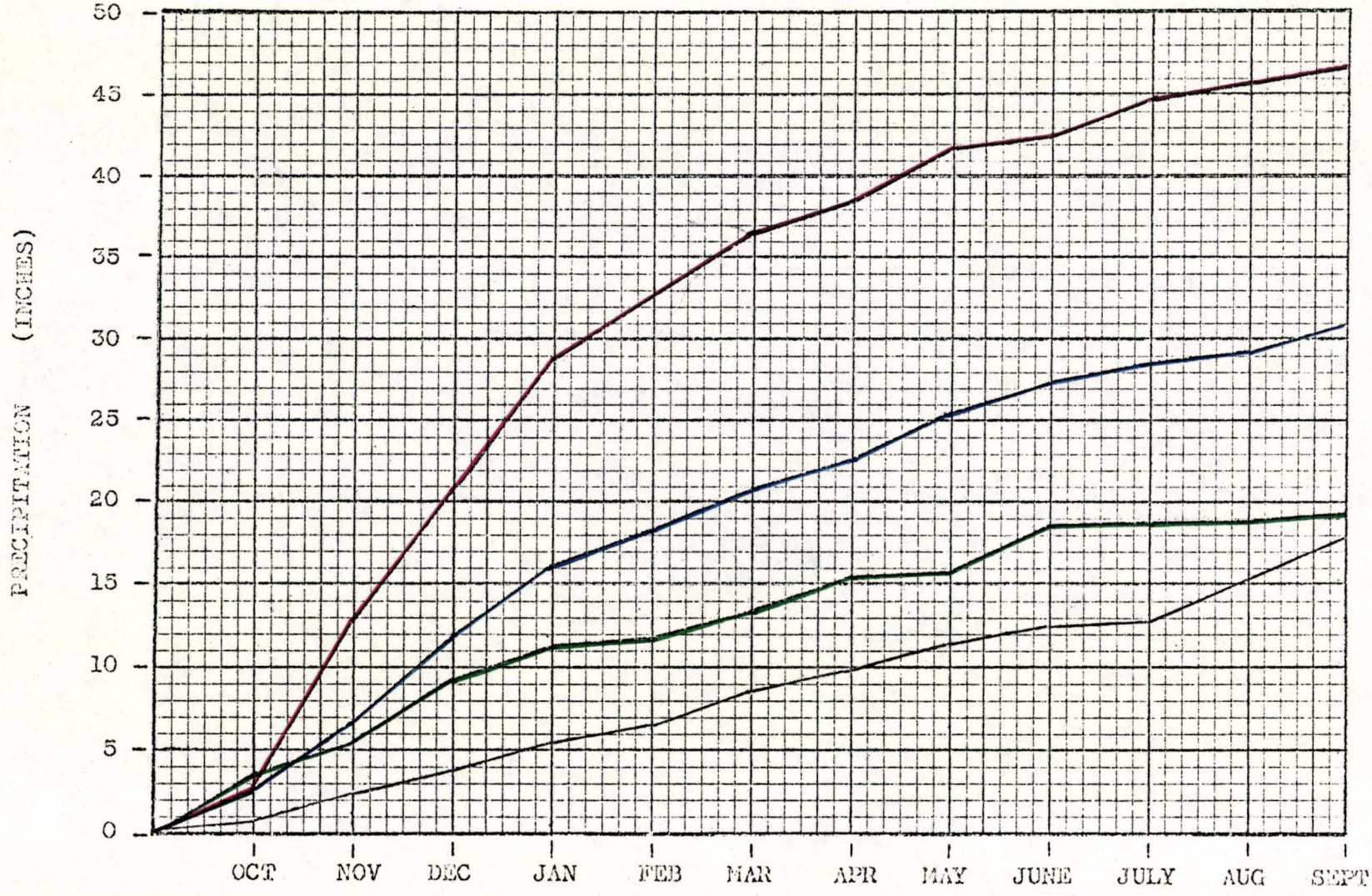

TABLE 1.--CONTROL STATION MONTHLY PRECIPITATION AND TEMPERATURE - 1977. FIGURES IN PARENTHESES ARE 50 YEAR (1912-1961) AVERAGES

Month	Precipitation		Temperature			
			Ave.	Max.	Ave.	Min.
	- -inches- -		- - - - - - - - Degrees F. - - - - - - - - - -			
Jan.	1.24	(4.02)	26.9	(30.3)	17.3	(16.6)
Feb.	1.11	(3.09)	39.1	(36.4)	24.8	(18.3)
Mar.	2.28	(2.65)	44.2	(45.3)	27.2	(23.5)
Apr.	0.32	(2.04)	62.6	(57.6)	29.4	(29.6)
May	2.42	(2.18)	60.0	(66.7)	36.8	(36.6)
June	1.02	(2.27)	76.1	(73.5)	44.9	(42.5)
July	0.50	(0.89)	79.5	(83.1)	45.2	(45.5)
Aug.	2.20	(0.97)	82.6	(82.0)	47.8	(43.4)
Sept.	2.21	(1.67)	64.9	(70.4)	41.4	(37.4)
Oct.	1.66	(2.96)	56.2	(56.6)	32.3	(32.1)
Nov.	4.02	(3.76)	35.8	(39.6)	25.5	(26.7)
Dec.	7.27	(4.37)	31.0	(32.5)	22.5	(21.1)
Annual	26.25	(30.87)	54.9	(56.1)	32.9	(31.0)

TABLE 2.--PRECIPITATION AT THREE STATIONS ON BENTON CREEK. FIGURES IN PARENTHESES ARE 18 YEAR AVERAGES 1960-1977.

Month	Control Stn. Elev. 2,344'		Benton Dam Elev. 2,640'		Benton Spring Elev. 4,775'	
	Inches					
Jan.	1.24	(4.40)	1.35	(4.86)	1.30	(4.35)
Feb.	1.11	(2.85)	0.93	(2.93)	0.80	(3.30)
Mar.	2.28	(2.79)	2.42	(2.94)	3.40	(3.66)
Apr.	0.32	(1.92)	0.37	(2.10)	0.40	(2.67)
May	2.42	(2.37)	2.53	(2.43)	3.80	(3.10)
June	1.02	(1.94)	0.88	(2.05)	1.02	(2.65)
July	0.50	(0.91)	0.48	(0.97)	1.00	(1.28)
Aug.	2.20	(1.51)	2.07	(1.65)	2.40	(1.84)
Sept.	2.21	(1.53)	2.51	(1.54)	3.00	(1.77)
Oct.	1.66	(2.29)	1.51	(2.22)	1.70	(2.54)
Nov.	4.02	(4.66)	3.97	(4.70)	3.30	(4.74)
Dec.	7.27	(4.85)	7.15	(5.08)	6.80	(5.42)
Total	26.25	(32.02)	26.17	(33.47)	28.92	(37.32)

TABLE 3.--SNOW DEPTH AND WATER CONTENT FOR BENTON MEADOW AND BENTON SPRING SNOW COURSES, 1977. FIGURES IN PARENTHESES ARE 25 YEAR AVERAGE - 1937-1961.

Month	Benton Meadow Elev. 2,344'				Benton Spring Elev. 4,775'			
	Snow depth		Water Content		Snow depth		Water content	
	Inches							
Jan. 1	7.4	(12.0)	1.5	(2.7)	12.0	(30.9)	2.5	(8.4)
Feb. 1	11.5	(19.4)	1.7	(4.8)	15.3	(46.8)	3.2	(13.7)
Mar. 1	6.1	(19.3)	1.6	(6.0)	16.0	(55.3)	4.1	(18.4)
Apr. 1	00.0	(06.2)	0.0	(2.3)	28.7	(22.1)	7.8	(20.4)
May 1	00.0	(00.0)	0.0	(0.0)	00.0	(34.0)	0.0	(14.8)
June 1	00.0	*(NA)	0.0	*(NA)	00.0	*(NA)	0.0	*(NA)

*No average

COOPERATION

The annual cooperative meeting between the Forestry Sciences Laboratory - PREF, and the Priest Lake Ranger District was held March 10, 1977 at the Supervisor's Office in Coeur d'Alene. Topics of discussion included timber sales, roads, review of the fire plan, plans for the 1977 YCC program, slash disposal, and the memorandum of understanding. Staff members participating were; John Hauer, S.O., Coeur d'Alene; Dan Montgomery, Dick Hodge, Wallace Huff, Chuck Troxel, and Steve Posey, Priest Lake Ranger District; Marvin Foiles, Ray Boyd, Russ Graham, FSL Moscow; and Cal Carpenter, PREF.

Training Site

Other related activities are as follows. On July 20, 1977, David Vig, S.O.; Joe Venishnik, McFarland Pole representative; and Jim Cary, Priest Lake Ranger District met at the PREF to establish an area where cruisers from the northern portion of Idaho Panhandle National Forests could come and be taught the basics of cruising cedar poles.

The area selected is in the SE 1/4 of Section 25, T58N, R4W, and the SW 1/4 of Section 30 T58N, R3W. There were 25 trees selected on the west side of the transect and 15 trees selected approximately 1/2 mile up the road (597-B) in a draw.

The trees are marked with a small spot of paint on the road side, and are numbered on the opposite side.

Equipment Storage

Winter storage space was set up in the shop facility at PREF headquarters to store weather instruments, appliances, cooking ware, and other equipment used at Gisborne Lookout Tower during the summer fire season. Removal during the winter was necessary due to recent problems in vandalism during down time.

HEADQUARTERS IMPROVEMENTS AND MAINTENANCE

The annual early season work included reopening the buildings which were winterized the previous fall, grounds maintenance, reactivation of the water system at the nursery site, and a thorough inspection for possible winter damage to the facilities.

Fire detectors were installed in the office laboratory, mess hall-bunkhouse, and cottages #1, 2, 3, and 4. Devices which detect abnormally high temperatures or rate-of-rise temperature was the type selected to best protect life safety and property at the headquarters station. Included in the system were audible claxton signals, both inside and out, and control panels with main power lights, trouble alarm buzzers, trouble alarm test switches, and main alarm test switches. Vic Hager, FSL, Moscow designed, fabricated, and installed the system.

A. Office Laboratory.--A new expansion tank was installed in the furnace room. Maintenance was required in the heating and the electrical systems. Minor modifications were made in the office space for the YCC staff.

B. Cottage #1 (Lodge).--A new automatic washer and dryer and electrical wiring was installed to accommodate increased use during the summer season. Modification in the plumbing system was required for the new applicances. Minor building maintenance was accomplished as needed.

C. Cottage #2.--General preventive maintenance was performed during the early season. Shrub removal was necessary to avoid foundation problems.

D. Cottage #3.--Roof and exterior repair was done as needed. Power and water supply lines were removed from the "slab top" hot water heater which is no longer servicable. The appliance was retained for added work surface in the kitchen area.

E. Cottage #4.--New receptacles were added to the electrical system in the basement area. New light fixtures were installed in the living room. Interior refinish was done in the living room and bathroom. The entire attic was insulated with 6-inch fiber glass matting. A new 110 V. horn-type device was installed for the purpose of signaling personnel in the out-lying areas of the headquarters station.

F. Bunkhouse Messhall.--The dormatory area was refinished. New doors were installed on the shower stalls. Two new refrigerators were set up to better accommodate the YCC operation. Other minor maintenance included repair to storm doors, windows, and the exterior of the facility.

G. Shop.--The tool display was reorganized and the storage area was cleared of accumulated debris. A new table saw, bench grinder, and portable compressor, complete with paint accessories, was added to the shop equipment inventory. A portion of the upstair storage area was set aside for an enclosure for YCC supplies.

H. A burned out capacitor and over-load switch caused a malfunction in the water system control panel in early April. The following July it was necessary to install a fustron block holder with a dual element fuse. The nursery irrigation facility continued to function trouble free. Use was limited to bare necessity, due to the unusually dry season. The drain line from the open lagoon to the drain field (sewage disposal system) ceased to drain properly. The obstruction was removed by pressure flushing. The area surrounding the lagoon was sprayed with weed control chemical to control thistle growth. The work was accomplished by personnel from the Bonner County Extension Service field unit at no cost to the PREF.

I. The two storage shelters, woodshed, fuel pump, fuel storage, and power access were inspected at regular monthly intervals and found to be in a stable condition. Interference with power lines necessitated removal of several trees in the headquarters area.

J. A new cover was installed over Benton Spring. The water from this spring is origination of flow which is known as Benton Creek, and drains into Priest River a short distance from the PREF headquarters station.

PERSONNEL

Position	Dates	Name
Superintendent	1/30/65 to Present	Cal Carpenter
Maint. Assistant	1966 to Present (Intermittant)	Jane Knoke

Meetings, Group Visits, and Inspections

Feb. 22 Marvin Foiles, general inspection, station business conference. Before returning to Moscow, Foiles and Carpenter collected samples of overwintering casebearer for RWU 2204.

Mar. 15 Local representatives of the Idaho Fish and Game Dept., Priest Lake Community, visited the station to obtain past weather information. The data were used in determining flow control at the lake outlet.

April 11 Russ Graham, INT-RWU-1206 Moscow, arrived at PREF for a meeting with district personnel to inspect and determine slash disposal in the Ida-Benton sale area.

April 13 Dan Montgomery, Priest Lake District Ranger, and forester Ray Raugutt, visited the experiment station to aquaint Ray with the area.

April 27 Dr. Ed Wicker, INT-RWU-2205, Moscow, arrived at PREF to inspect and gather root samples from infections in exotic tree plantations within the area.

May 6 Homero Cabrera, Assistant Professor, Department of Forestry and Range Management, Washington State University, Pullman, Wash., and six students conducted a special problem course on the effects and use of fire in land management. Observations were made in various sites on the PREF which have been harvested and burned at different times.

May 20 WSU field ecology class, Dr. Richard Mack and 20 students.

June 6 O.S.H.A. General Maintenance and Safety Inspection by Dave Blackner, INT Ogden, Utah; and Vic Hager INT FSL, Moscow.

June 13 Mike Larsen. Forestry Products Lab. Madison, Wisconsin-- Inspect PREF Lab. and lodging facilities and set up program for season research activities involving forest residues.

June 14 Al Harvey, INT-RWU-3251 Missoula. Inspection of research work in progress and confer with Michigan Tech. Univ. personnel.

June 19 Gary Long, Entomologist, and Assistant Entomologist Grayson C. Brown, Washington State University, Pullman, Wash. spent 10 mandays sampling casebearer populations in the V.Q.-Crows Nest plots.

June 29 Martin Jorgensen, Michigan Technological University, progress conference with crew members of Mich. Tech. crews, located at PREF, working on the residues study.

June 29 John Kuser, Dept. of Forest Science, Oregon State University, Corvallis, Oregon spent several hours on the PREF selecting western hemlock seed trees situated within the highest and lowest elevations for use in a rangewide provenance study. Further information under "Res. Cooperators."

Aug. 15-17 Six graduate students from the College of Forestry, University of Idaho (Dr. Partridge), utilized the mess hall facilities at PREF while conducting surveys for root disease. Samples were taken at varied locations in the Priest Lake District.

Sept. 22 R. T. Grotefend, Instructor, Natural Resources, Spokane Community College, Spokane, Wash. and 17 members of the forest technician class. The tour was led by Marvin Foiles and Russ Graham, FSL Moscow.

Oct. 21 Carl Stoszek, Associate Professor, Forest Management, University of Idaho, and 12 members of the advanced silviculture class toured the PREF to observe active research projects. The tour was led by Charles Wellner, Russ Graham, and Austin Helmers.

Oct. 29-30 Drs. A. D. Partridge, Elmer Canfield and five graduate students from the College of Forestry, University of Idaho, conducted an investigation relating to the cause of mortality in exotic tree plantations.

YOUTH CONSERVATION CORPS

The fifth consecutive year of operation at PREF began June 13, and ended Aug. 5, 1977. The program which is sponsored by the U.S. Department of Agriculture, and operated by the Intermountain Forest and Range Experiment Station, proved to be a real success in accomplishing and completing the work-study projects as set up in the provisions and objectives of program.

Some minor modifications and changes were necessary to improve the facilities used by YCC staff and enrollees. The amphitheater proved to be a popular place for study groups, social gatherings, and provided an ideal setting for camp completion ceremonies on termination day.

Following is the list of names of staff members and enrollees who participated in the 1977 program:

Staff

W. Paige Ballard	YCC Program Manager
Robert Weisel	YCC Director
Larry Rickards	Environmental Training and Project Coordinator
Len Baumann	Crew Leader
Mary Schweitzer	Crew Leader
Elizabeth Rehn	Crew Leader
Tina Rae	Cook

Enrollees

Ann E. Rauer	Beth E. Hendrickson
Tami L. Gunderson	Kevin L. Dickey
Tammie K. Jackson	Rod Sprague
Larua L. Brusven	Lori L. Greenfiled
Ronald P. Waits	Connie I. Juntilla
Terry L. Peyer	Aaron B. Gurlitz
Donnie L. Kinman	Christy A. Baker
Norman B. Watson, Jr.	Rocky P. Parker
Linda M. Postlewait	Lori S. Bunde
Craig A. Ross	Lance A. Asherin